

## SPANISH MYXOMYCETES. VI. FOUR INTERESTING SPECIES BELONGING TO THE STEMONITALES

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**ABSTRACT** - *Comatricha pellucida* sp. nov. from Spain, is described and figured. *C. afroalpina* Rammeloo, described from Africa, and *C. anomala* Rammeloo, described from Belgium, are new records from Spain. They both have a distinctive spore ornamentation, especially when observed under the scanning electron microscope. We have added photographs of *Macbrideola macrospora* (Nann.-Brem.) Ing, which was obtained in a moist chamber culture.

**RESUMEN** - Se describe e ilustra *Comatricha pellucida* sp. nov. como taxon nuevo para la ciencia, procedente de España. *C. afroalpina* Rammeloo, descrita de Africa, y *C. anomala* Rammeloo, descrita de Bélgica, constituyen nuevos registros para España. Ambas se caracterizan por tener una ornamentación esporal típica, especialmente bajo el microscopio electrónico de barrido. Aportamos fotografías de *Macbrideola macrospora* (Nann.-Brem.) Ing, obtenido en cultivo de cámara húmeda.

**KEY WORDS** : Myxomycetes, Stemonitales, *Comatricha pellucida*, *Comatricha afroalpina*, *Comatricha anomala*, *Macbrideola macrospora*.

The terminology of Dörfelt & Marx (1990) is used.

*Comatricha afroalpina* Rammeloo, *Bull. Jard. Bot. Belg.*, 53: 297, 1983 (Figs. 1-10)

Sporocarps scattered, generally ■ few only, stalked, 1-2mm tall. Sporophores globose, dark brown. Stalk cylindrical, reddish-blackish, fibrous at base, mostly up to 1mm long. Columella a continuation of the stalk reaching about the centre of the sporophore, its apex merging into the thick capillitium branches. Capillitium scanty, pale brown, attached perpendicularly to the columella along its whole length, branches thick and anastomosing freely, especially towards the periphery, forming an incomplete surface net. Spores globose, pale brown, 8-10 µm diam., baculate/warted all over (SEM shows baculae with lobed apices).

All the collections were obtained in moist chamber culture. The identities of specimens AH 12085 and 12871 were confirmed by Dr. Rammeloo. Collection AH 13285 has ellipsoid spores which are up to 11 µm diam.

The outstanding characters of this species are the structure of the capillitium and spores. The capillitium is differentiated into strong primary branches which ramify in thinner filaments, anastomosing especially near the periphery. The spores are pale

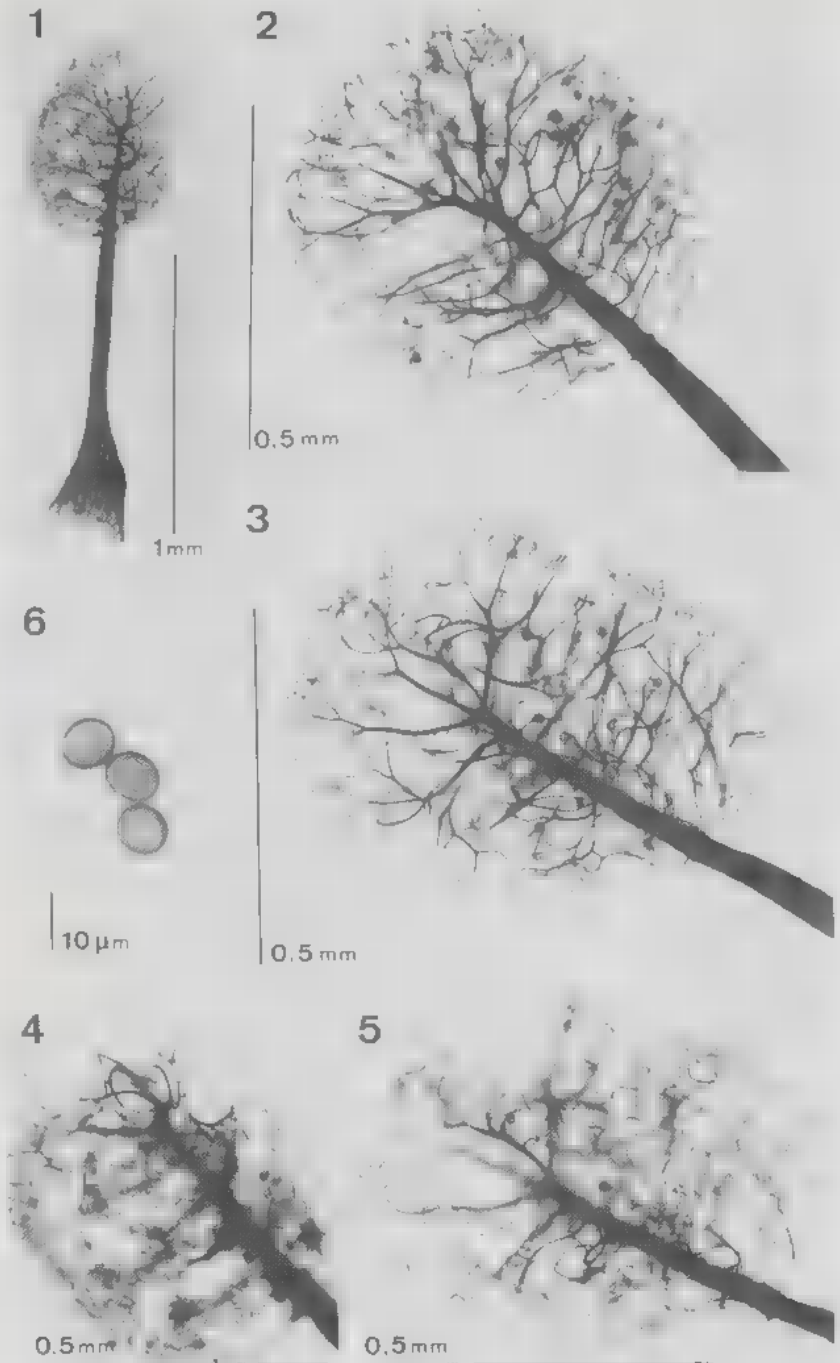


Fig. 1-6: *Comatricha afroalpina* Rammeloo (AH 12871). 1: sporocarp. 2-5: sporophores. 6: spores.

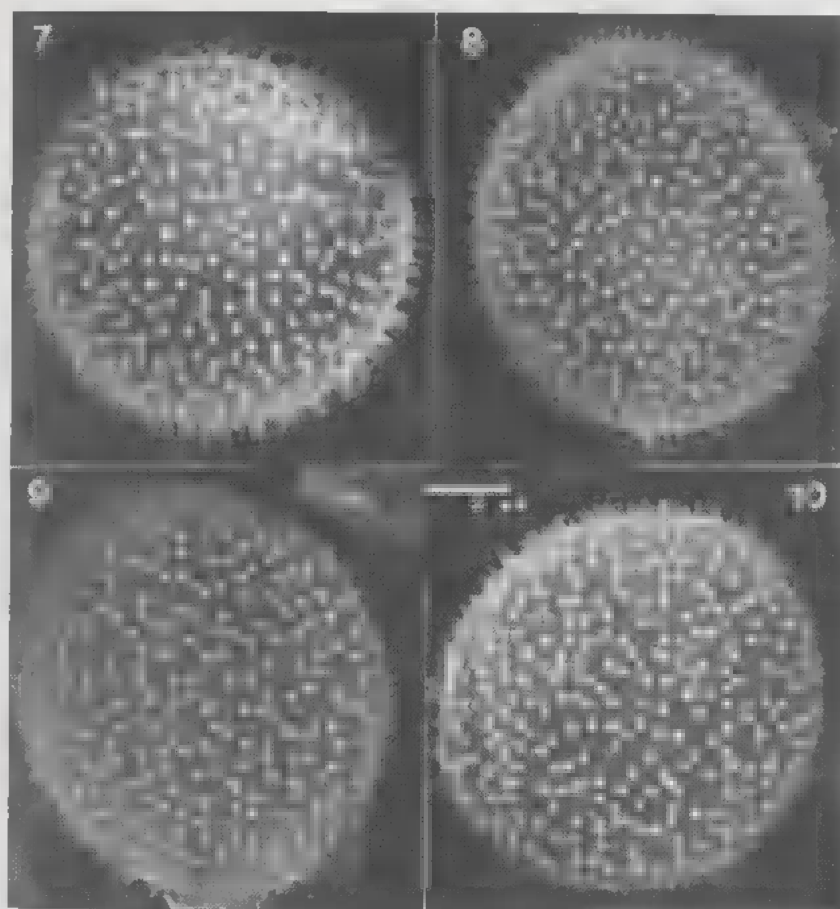


Fig. 7-10. *Comatricha afroalpina* Rammeloo. 7-8 (AH 12871) and 9-10 (AH 13285): spores.

and baculate. Buyck & Rammeloo (1983) discussed the relationships of this species with others. It has only been recorded previously from Africa.

**Material examined:**

GUADALAJARA: on wood of *Quercus faginea*, cerro Alto Llano, Turmiel, 27-XI-1990, AH 12871.

MADRID: on bark of *Vitis* sp., in moist chamber after 18 days, 13-VIII-1990, Quinta Cervantes, Alcalá de Henares, AH 12085. On bark of *Vitis* sp., in moist chamber from 24-IV-1991 to 16-V-1991, quinta Cervantes, Alcalá de Henares, AH 13285.

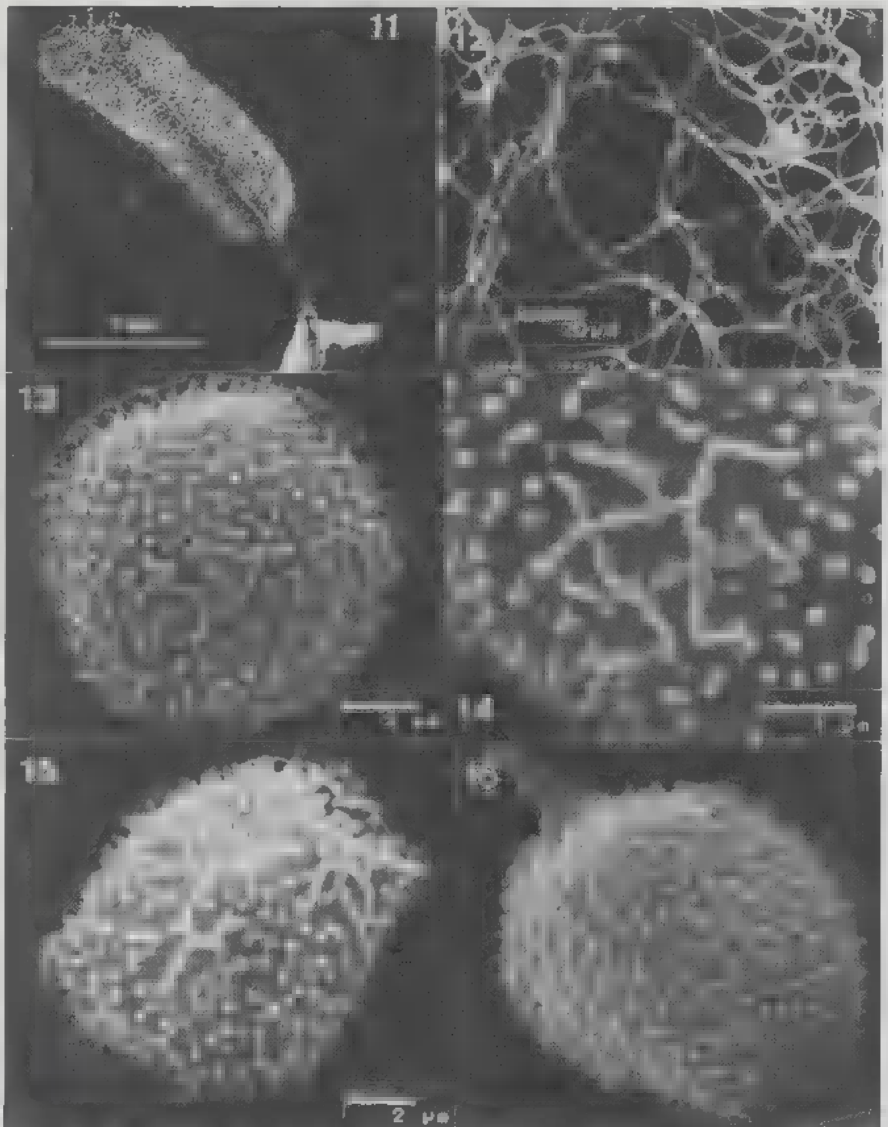


Fig. 11-16. *Comatricha anomala* Rammeloo. 11 (AH 12647): sporocarp. 12 (AH 12932): capillitium. 13-15 (AH 12932): spores and ornamentation. 16 (AH 13025): spore.

*Comatricha anomala* Rammeloo, *Bull. Jard. Bot. Belg.* 46: 237, 1976 (Figs. 11-16)

Sporocarps in small groups of 5-20, cylindrical with convex apex, stalked, 0.2-0.35 cm tall. Hypothallus membranous, translucent, with a clear colour. Stalk short, 1/3 to 1/4 of the total height, dark brown, with a fibrous base. Peridium early evanescent. Columella attenuate from base to apex. Capillitium abundant, reddish-

brown, thin, with a scarcely developed peridial net and with numerous free ends. Spores pale brown, globose, 7.5-10  $\mu\text{m}$  diam., densely warted; because of the coalescence of the warts, some partial reticulation, more or less extensive in some zones, can be observed.

Rammeloo (1976) indicated in his original description that the spore size was 9-10  $\mu\text{m}$  diam. Kowalski & Demaree (1987) collected this species in California and they especially noted the smaller spore size of their specimen, i.e. 8-9  $\mu\text{m}$ . This agrees better with our collection AH 13025 in which the spores are 7.5-9  $\mu\text{m}$  diam.

*Comatricha anomala* is a species with a unique spore ornamentation in this genus, consisting of warts which coalesce into a nearly complete reticulation.

It has been recorded from Belgium (Rammeloo, op. cit.), Norway (Johannesen, 1984), Germany (Neubert & Baumann, 1986), USA (Kowalski & Demaree, op. cit.) and now for the first time from Spain, where it has always been collected on dead wood.

#### Material examined:

BADAJOS: On a branch of *Nerium oleander*, arroy Argallón, Azuaga, leg. J.R. García, 10-X-1990, AH 13025.

CASTELLON: on unidentified wood, Castellón, leg. A Burguete, 31-I-1990, AH 12932. On a stem of *Genista scorpius*, Fuente la Reina, leg. A. Burguete, 12-X-1990, AH 12647.

#### *Comatricha pellucida* Moreno & Illana, sp. nov. (Figs. 17-26)

(Etym.: from the Latin *pellucidus* because of the pale translucent capillitium)

*Sporocarpia glomerata, caespitosa, globosa, stipitata, brunneo-rubra, 0,3mm diam. et 0,4-1,2mm alta. Stipes niger, erectus, ad summum usque ad tertiam partem altitudinis totalis surgens, basis valde lata gradatim versus apicem minuens. Peridium fugax. Columella crassa gradatim macrescens, dimidium sporocarpium attinens. Capillitium valde ramosum et anastomosans filamentis valde angustis constitutum minus quam 1  $\mu\text{m}$  diam. latis, pallido-brunneis, multas ramificationes liberas, papillas parvas et nullum nodulum latum habentibus. Sporae 7-9  $\mu\text{m}$  diam., verrucosae, S.E.M. exploratae longa bacula inaequaliter distributa exhibentes.*

*Habitat: In foliis Ulmi minoris, Fuente la Reina, Castellón, leg. A. Burguete, 31.I.1990, AH 12867 Holotypus. (Isotypus in herbario privato Nannengae-Bremekamp, sub n° 16.690)*

Sporocarps in small clusters, gregarious, stalked, 0.4-1.2 mm tall. Sporophores globose, about 0.3 mm diam., red-brown. Hypothallus discoid, black. Stalk black, nearly half the total height, base very wide, attenuated upwards, reaching to the centre or a little over in the sporophore, where it splits into a few capillitium branches, slightly webbed at the base between the branches. Capillitium dense, thin, less than 1  $\mu\text{m}$  diam., pale brown, (Rayner) rosy buff, with very abundant small papillae, joined perpendicularly to the columella along its whole length, branched and anastomosing, axils not widened, base, except on the apex, not webbed, forming 2-3 somewhat elongate meshes on the radius, and with about 35-45  $\mu\text{m}$  long free ends pointing outwards. Spores globose, pale rosy or pale brown, 7-9  $\mu\text{m}$  diam., irregularly, minutely baculate (SEM; under the light microscope appearing spinulose) the baculae (spinules) less than 0.5  $\mu\text{m}$  long. Plasmodium not observed.

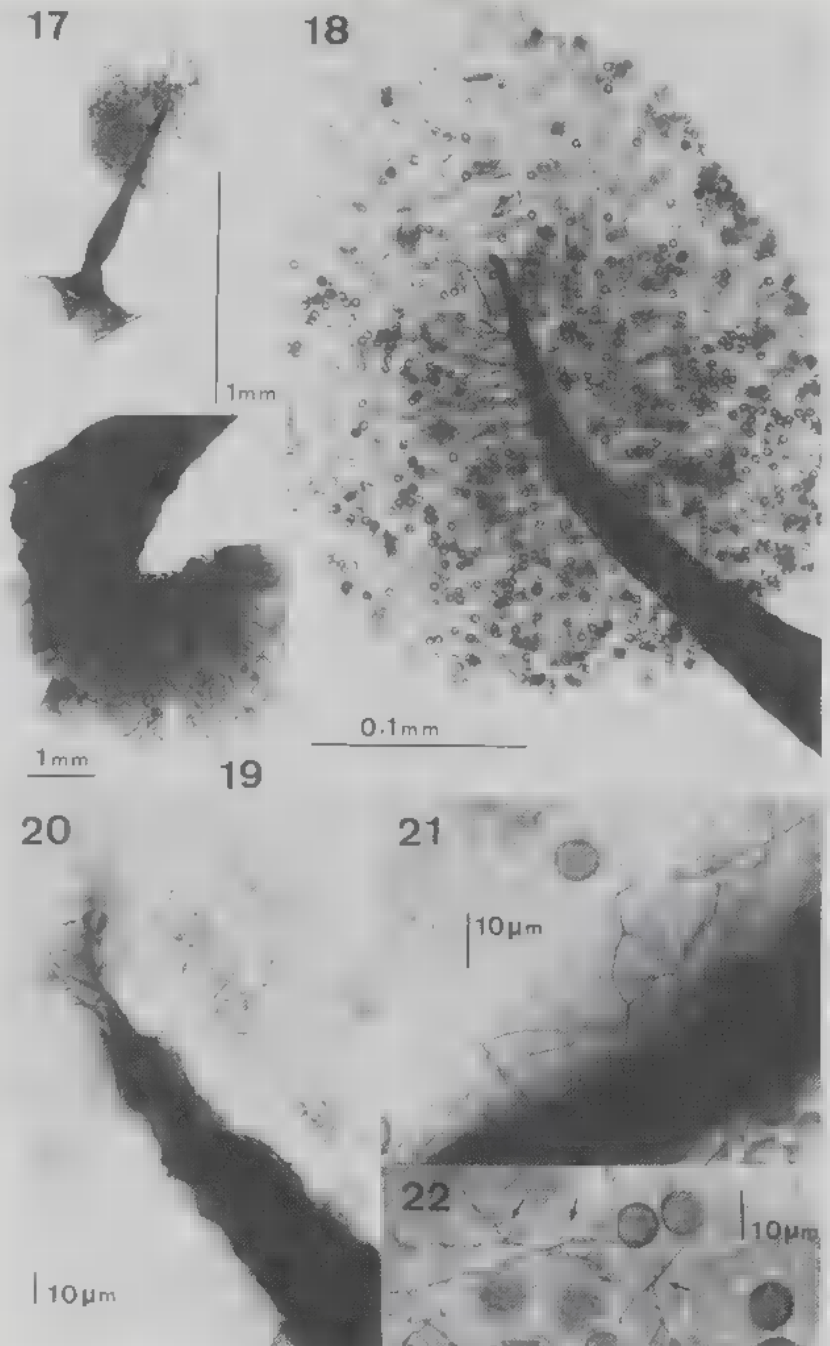


Fig. 17-22. *Comatricha pellucida* Moreno & Illana (*Holotypus*). 17: sporocarp. 18: sporophore. 19: hypothallus. 20-22: capillitium and spores.

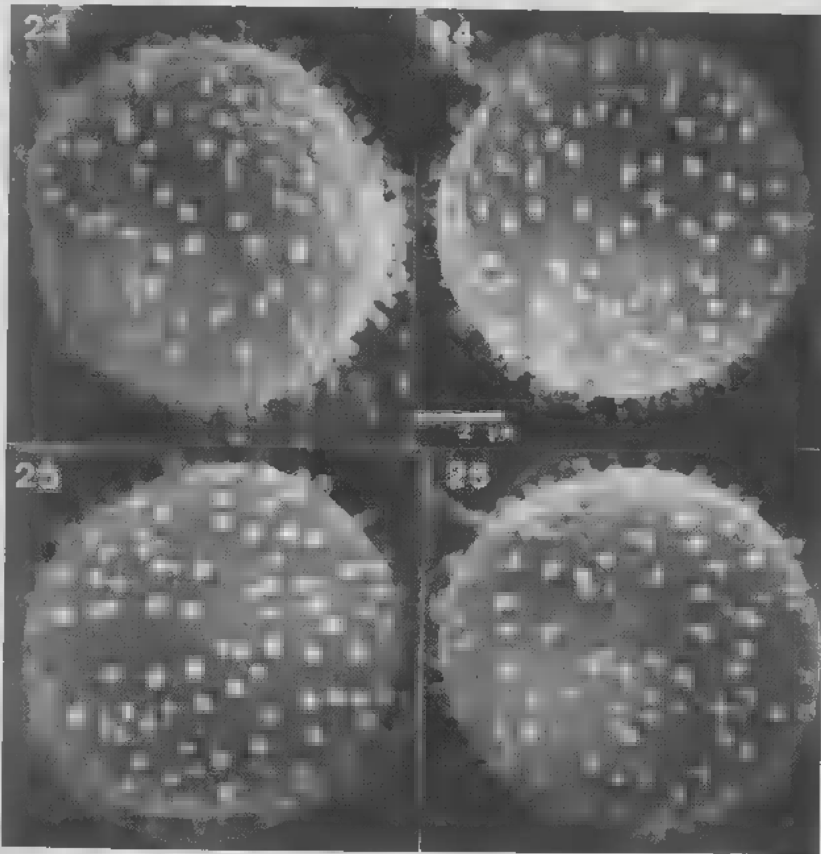


Fig. 23-26. *Comatricha pellucida* Moreno & Illana (*Holotypus*): spores and ornamentation.

Habitat: on leaves of *Ulmus minor*, Fuente la Reina, Castellón, leg. A. Burguete, 31-I-1990, AH 12867 *Holotypus*. (*Isotypus* in the private herbarium of Nannenga-Bremekamp sub n° 16.690).

*Comatricha pellucida* belongs to the subgenus *Laxaria* Nann.-Brem. It is characterized by redbrown sporophores, thin, pale, profuse, radiating from the columella capillitium net and rather pale spores. These characters separate it from any other known species of *Comatricha*.

*Macbrideola macrospora* (Nann.-Brem.) Ing, *Trans. Brit. Mycol. Soc.* 78: 444, 1982. (Figs. 27-30)

≡ *Macbrideola cornea* var. *macrospora* Nann.-Brem., *Proc. Kon. Ned. Akad. Wetensch., Ser. C*, 74: 363, 1971.

Nannenga-Bremekamp (1971) described *M. cornea* var. *macrospora* as characterized by bigger spores: 12-14  $\mu\text{m}$  diam., darker colour and spinulose spore ornamentation than in *M. cornea*. Ing (1982) raised it to specific rank.

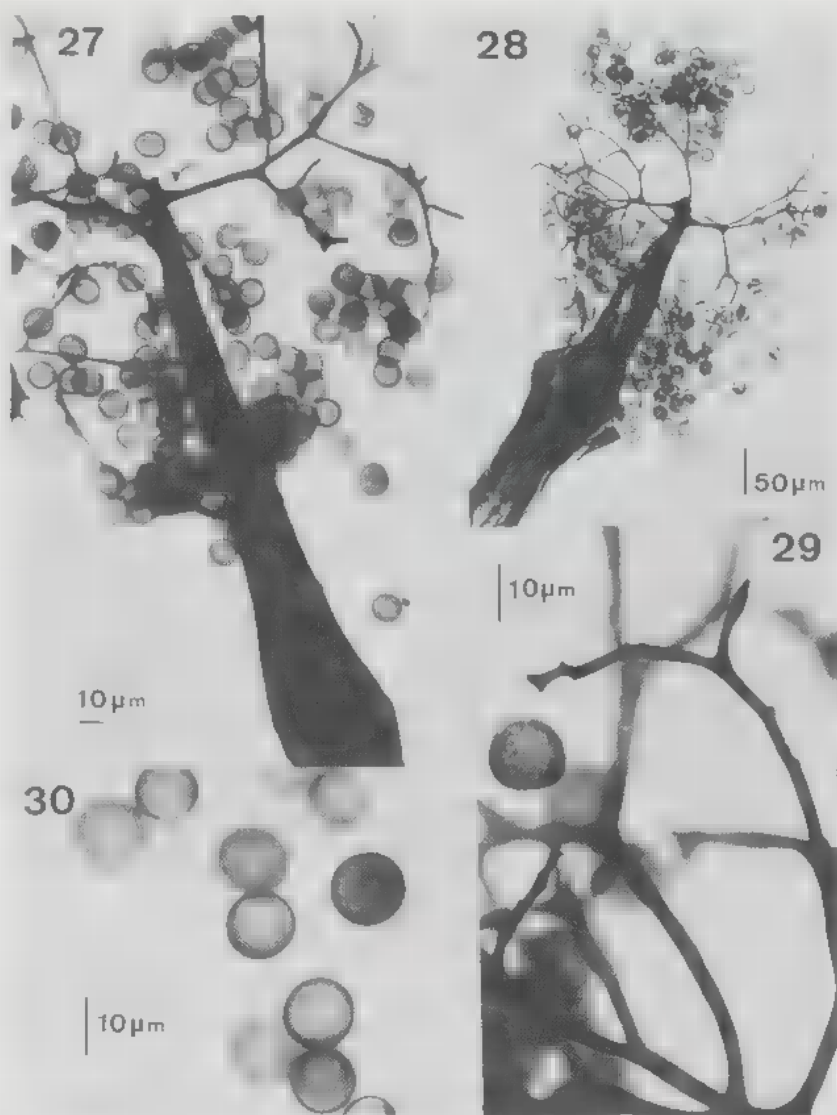


Fig. 27-30. *Machrideola macrospora* (Nann.-Brem.) Ing (AH 13060). 27-28: sporocarps. 29: capillitium. 30: spores.

This taxon has been recorded before from Spain, from Barcelona (Llistosela & Aguasca, 1986).

**Material examined:**

CACERES: on bark of *Quercus pyrenaica*, in moist chamber from 1-II-1991 to 18-II-1991, Sierra de Bernabé del Piornal de Tomantós, 27-IV-1990, AH 13060.



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